

ABSTRACT OF THE DISCLOSURE

A substrate holding mechanism, a substrate polishing apparatus and a substrate polishing method have functions
5 capable of minimizing an amount of heat generated during polishing of a substrate to be polished and of effectively cooling a substrate holding part of the substrate holding mechanism, and also capable of effectively preventing a polishing solution and polishing dust from adhering to an
10 outer peripheral portion of the substrate holding part and drying thereon. The substrate holding mechanism has a mounting flange, a support member 6 and a retainer ring. A substrate to be polished is held on a lower side of the support member surrounded by the retainer ring, and the
15 substrate is pressed against a polishing surface of a polishing table. The mounting flange is provided with a flow passage contiguous with at least the retainer ring. A temperature-controlled gas is supplied through the flow passage to cool the mounting flange, the support member and
20 the retainer ring. The retainer ring is provided with a plurality of through-holes communicating with the flow passage to spray the gas flowing through the flow passage onto the polishing surface of the polishing table.